

wherein detecting an allelic pattern from an IL-1 haplotype associated with early-onset menopause in the subject of Northern European or non-Northern European indicates an increased susceptibility to early-onset menopause.

22. **(Amended)** A method of identifying a second IL-1 allelic pattern associated with early-onset menopause, said method comprising identifying a second IL-1 allelic pattern that is in linkage disequilibrium with a first IL-1 allelic pattern associated with early-onset menopause, thereby identifying a second IL-1 allelic pattern that is associated with early-onset menopause .

23. **(Amended)** The method of claim 22, wherein said first allelic pattern comprises one or more alleles at a single polymorphic region within the IL-1 gene loci.

24. **(Amended)** The method of claim 23, wherein said first or second IL-1 allelic pattern is selected from the group consisting of IL-1RN (+2018) allele 2; IL-1RN (VNTR) allele 2; IL-1A (222/223) allele 4; IL-1A (gz5/gz6) allele 4; IL-1A (-889) allele 1; IL-1B (+3954) allele 1; IL-1B (-511) allele 2; gaat.p33330 allele 3; Y31 allele 3; IL-1RN exon 1ic (1812) allele 2; IL-1RN exon 1ic (1868) allele 2; IL-1RN exon 1ic (1887) allele 2; Pic (1731) allele 2; IL-1A (+4845) allele 1; IL-1B (+6912) allele 1; and IL-1B (-31) allele 2.

43. **(Amended)** A method for determining whether a subject of northern European or non-northern European ancestry is subject to early-onset menopause, comprising determining whether or not the subject carries a 44112332 haplotype, wherein determining that the subject carries the 44112332 haplotype indicates that the subject is predisposed to early onset of menopause if the subject is of northern European ancestry and is not subject to early-onset menopause if the subject is on non-northern European ancestry.

### **REMARKS**

The above amendments enter no new matter. The amendment to claims 1, 11 and 43 are supported throughout the application, for example at page 60, line 10 to page 61, line 27. The amendment to claim 9 is merely formalistic. Support for the amendment of claims 22-24 can be found throughout the application.